

ENVIRONMENTAL CLEAN-UP SYSTEM

Aldon R. Reinhardt

ABSTRACT

An efficient high-temperature water vapor generator is used to de-contaminate soil. The vapor generator includes a combustion chamber and a surrounding structure, wherein a cavity is located therebetween. Water is routed through the cavity and into the combustion chamber, where water vapor and heat are generated in the presence of fuel, ignition and air. The generated heat pre-heats the water in the cavity, thereby creating an efficient system. The water vapor is forced into a vapor tube (which has openings for emitting the vapor), thereby heating the vapor tube to temperatures of 800°F or greater. A soil tube having lifting paddles located therein surrounds the vapor tube. Contaminated soil enters one end of the soil tube. The soil tube is rotated, thereby moving the contaminated soil into contact with the vapor tube (decontaminating the soil). The lifting paddles move the soil toward the second end of the rotating soil tube.